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09/847,077	05/01/2001	David L. Dooley	ZETT 2147	6971
7812	7590	10/18/2004	EXAMINER	
SMITH-HILL AND BEDELL 12670 N W BARNES ROAD SUITE 104 PORTLAND, OR 97229			MOORE, IAN N	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/847,077

Applicant(s)

DOOLEY ET AL.

Examiner

Ian N Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on the application filed on 5/1/01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. Claim 7 and 9 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

**Dependent Claim 7** recites, “at **step a**” in line 3. In apparatus independent claim 6 “step a” is not disclose.

**Depended claim 9** recites, “at **step c**” in line10. In neither of the preceding claims “step c” is disclosed.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Claim 1** recites, “...**each cell** of **each cell sequence** contains a separate portion of the data conveyed by cell sequence’s corresponding packet...” in line 9-10. It is unclear whether a separate portion of data conveyed by cell sequence’s corresponding packet is **in each cell**, or **in each cell sequence**.

**Claim 6** is also rejected for the same reason as above.

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Claims 2-5 and 7-12 are also rejected since they depend on the rejected claims as stated above.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iny (U.S. 2002/0061030A1) in view of Kozaki (U.S. 5,799,014).

**Regarding claim 1 and 6**, Iny'030 discloses an apparatus (see FIG. 1, a packet switching device) for storing data conveyed by each plurality of packets (see FIG. 1, fabric planes 14) and for thereafter forwarding data conveyed by the packets (see FIG. 1, Egress/Output Controller 16), wherein each packet also conveys a flow identification number (FIN) (see FIG. 3, each packet belongs to a flow/connection/path, and the flow/connection/path is identified in the header, i.e. flow ID, see page 1, paragraph 4), the method comprising the steps of:

a cell memory (see FIG. 4, fabric planes 14 which has a memory to store and switch) having a plurality of storage blocks (see FIG. 5, Input FIFOs and Output FIFOs; note that a switch fabric has FIFOs which stores the cells/fragment/blocks; see page 3, paragraph 32-33);

protocol processor means (see FIG. 2, packet segmenter 104 of Input/Ingress Controller 12) for generating a separate cell sequence corresponding to each packet (see page 2, paragraph 26; packet segmenter breaks the incoming variable size packet into fixed 32-bytes fragments/cells, and creates the a fixed separate fragment/cell sequence corresponds to each variable packet), wherein each cell of each cell sequence contains a separate portion of the data conveyed by cell sequence's corresponding packet (see FIG. 3, a data cell 200 contains a separate portion of the data or header (i.e. tags 202-210) which defines/expresses by cell/fragment sequence's corresponding packet; see page 2, paragraph 27);

data path controller means (see FIG. 2 and 3, Destination Processor means in the combined system of destination processor 108 and destination processor 508) for writing cells of each cell sequence generated by the protocol processor (see FIG. 2, packet segmenter 104) into separate storage blocks of the cell memory (see FIG. 4, fabric planes 14) such that the cell memory stores cells of a plurality of cell sequences corresponding to the plurality of packets (see page 2, paragraph 26-27, see page 3, paragraph 30-31; note that destination processor 108 in the input controller writes/sends fixed size sequence/serial/order of cells, which are generated/sent by packet segmenter 104, to the switch fabric memory planes 14. Also, note that each switch fabric memory plane stores and processes the fixed size cells/fragments of a plurality of cells/fragment sequences corresponding to the plurality of variable size packets), and

for thereafter reading cells of each cell sequence out of the cell memory (see page 3, paragraph 33-34; note that destination processor 508 reads out/receives the cells from the input FIFOs 504), and for thereafter forwarding read out cells from the network switch port

(see FIG. 3, output switch 514; the cells are forward to the egress/output controller 16, via the output switch 514. Also, see FIG. 1, input controller 12; note that the cells are segmented in the input controller, which is coupled to the switch port, and the cells are transmitted toward the fabric. The transmitted cells from the FIFO 50 are received at the destination processor. Thus, destination process forwards the cells from the input switch port; see page 2, paragraph 28-29; and

queuing system means (see FIG. 5, Sorter 506 of fabric element) for assigning a forwarding mode each cell sequence of the plurality of cell sequences in response to the FIN (see page 2, paragraph 27; the plurality of tags which defines the cell sequences) included in each cell sequence's corresponding packet, such that sequence-by-sequence forwarding mode is assigned to some of the cell sequences (see page 3, paragraph 33; see FIG. 3, fragment number 21; note that the sorting the cells in order to reassemble and forward is performed based upon lower fragment-number. Thus, when performing sequence-by-sequence forwarding, one must make a cell with lower fragment-number ahead of the other),

and such that a cell-by-cell forwarding mode is assigned to others of the cell sequences (see page 3, paragraph 33; see FIG. 3, time stamp 204 or source ID 206; note that the sorting the cells in order to reassemble and forward is performed based upon lagging time stamp or source-id which as a predetermined priority. Thus, when performing cell-by-cell forwarding, one must make a cell with lower time stamp, or same times stamp with different priority number ahead of the other), and

such that all cells of each cell sequence assigned the sequence-by-sequence forwarding mode are sequentially read out of the cell memory in uninterrupted succession

during an interval when no cell of any other cell sequence is being read out of the cell memory (see page 3, paragraph 33; note when sorting the cells based upon cell fragment number, the sorting and selection/reading process must perform sequentially, and each cell in the switch memory is read-out/extracted base upon fragment number. Also, it is clear that when sorting and reading-out/extracting the fixed size cells that belong to the same variable packet, the process must be performed in uninterrupted succession during a interval when no cell of any other sequence is being read out so that the variable size packet can be reassemble in the packet checker 608 at output); and

such that cells of separate cell sequences assigned the cell-by-cell forwarding mode are alternately read out the cell memory such that cell sequences assigned the cell-by-cell mode are interleaved when read out of the cell memory (see page 3, paragraph 33; note when sorting the cells based upon lagging time stamp or source-id which as a predetermined priority, the sorting and selection/reading process is performed as alternative to fragment number sorting, and each cell in the switch memory is read-out/extracted base upon lagging time stamp or source-id which as a predetermined priority. Also, it is clear that when sorting and reading-out/extracting the fixed size cells that belong to the same variable packet which has either same time stamp or priority number, the process must be performed in interleaved manner by selecting/reading-out all cells that have same time stamp or same priority number so that the variable size packet can be reassemble in the packet checker 608 at output).

Iny'030 does not explicitly disclose for thereafter reading when signaled to do so and for signaling the data path controller means when it is to read each cell out of the cell memory.

However, the above-mentioned claimed limitations are taught by Kozaki'014. In particular, Kozaki'014 teaches for thereafter reading cells of each cell sequence out of the cell memory (see FIG. 2, Memory 11) when signaled to do so (see FIG. 2, a combined system of Control table 104 and counter 105 sends the a signal to read address memory 102 by identifying the address of the cell to be read out from the memory 11; see col. 6, lines 5-52)

and queuing system (see FIG. 2, a combined system of Control table 104 and counter 105) for signaling the data path controller means (see FIG. 2, Read address memory 102 of buffer memory control circuit 10) when it is to read each cell out of the cell memory (see FIG. 2 Signal with RA and D0; note that the combined system sends the signals to read address memory 102 by identifying the read address, RA; see col. 5, lines 50 to col. 6, lines 52).

In view of this, having the system of Iny'030 and then given the teaching of Kozaki'014, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Iny'030, by providing the mechanism of signaling by identifying the read address from the memory, as taught by Kozaki'014. The motivation to combine is to obtain the advantages/benefits taught by Kozaki'014 since Kozaki'014 states at col. 2, line 10-67 that such modification would provide ATM switching system capable of a cell switching operation in accordance with cell transmission rate by performing the reading process within a predetermined time interval.



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***Allowable Subject Matter***

4. Claims 2-5 and 7-12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N Moore whose telephone number is 571-272-3085. The examiner can normally be reached on M-F: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

INM  
10/8/04



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SENIOR EXAMINER